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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,413	05/16/2005	Kenneth Sundberg	PR/3-23156/A/RAI 56/PCT	4017
324 7590 04/17/2007 CIBA SPECIALTY CHEMICALS CORPORATION PATENT DEPARTMENT 540 WHITE PLAINS RD P O BOX 2005 TARRYTOWN, NY 10591-9005			EXAMINER CORDRAY, DENNIS R	
			ART UNIT 1731	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/17/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/517,413

Applicant(s)

SUNDBERG ET AL.

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submissions filed on 12/11/2006 and 2/5/2007 have been entered.

### ***Oath/Declaration***

The Declaration under 37 CFR 1.132 filed 12/11/2006 is acknowledged. The Declaration states that an error in reel assignment was made in the Table on p 13 of the Specification and provides a copy of the corrected table.

The Declaration has been fully considered but is not persuasive. Absent extrinsic evidence, it is the Examiner's opinion that one of ordinary skill in the art examining the data of the Table on p 13 would not have found the error and correction thereof to be obvious.

Note that the declaration of an error does not constitute an amendment to the Specification. Any amendment to the Specification may be considered as new matter unless it merely corrects an obvious error where one skilled in the art would not only recognize the existence of the error in the specification, but also the appropriate

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correction (see 2163.07 [R-3] Amendments to Application Which Are Supported in the Original Description).

### ***Response to Arguments***

Applicant's arguments filed 2/5/2007 have been fully considered but they are not persuasive.

Applicant argues on p 5 that the advantages of low color and low hydrolysis are due to using a sizing containing ASA incorporating a maximum of 1% by weight of polymeric residues. Applicant also argues on p 6 that the improved characteristics of the paper sizing composition are especially unexpected in light of Tansley in view of Fakoukakis because 1) Tansley is primarily concerned with ketene dimer (AKD) and makes only passing mention of alkenyl succinic anhydride (ASA) and 2) Fakoukakis does not even mention paper sizing as a potential use of ASA.

Applicant is apparently arguing that high purity ASA would not have been obvious to use as a sizing agent because Fakoukakis does not mention such use. Frohlich et al (5969011) teaches that cellulose reactive sizing agents such as AKD and ASA are widely used (well known) in papermaking (col 1, lines 10-16). Tansley et al recites in col 4, lines 22-26 that "Any conventional cellulose-reactive paper sizing agent, including, for example, alkenyl succinic anhydride, as well as ketene dimers may be usefully employed in this invention." Although AKDs are the preferred sizing agents, Tansley et al specifically recites ASA as usable also. Using ASA to size the paper or board of Tansley et al is disclosed or, at least, would have been obvious to one of ordinary skill in the art.

Using as pure of a product as possible to avoid any problems caused by unwanted by-products would have been sufficient motivation to make the use of the ASA of Fakoukakis et al obvious to one of ordinary skill in the art. The additional benefit of not requiring additional purification by distillation for many applications (Fakoukakis et al, col 2, lines 13-21; col 3, lines 30-32) would have provided further incentive.

The rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

From the disclosures of Tansley et al and Fakoukakis et al and the knowledge generally available to one of ordinary skill in the art, why would it not have been obvious to use ASA of the highest possible purity (Fakoukakis et al) as the sizing agent in the paper of Tansley et al?

The sizing composition of the paper of Tansley et al in view of Fakoukakis et al has substantially the same structure as the instant invention, as claimed, and will have the claimed properties of color and rate of hydrolysis. Where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the

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structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

“[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

The rejection of Claims 1-12 over Tansley et al in view of Fakoukakis et al has been amended to include further support for using a high-purity ASA sizing agent. In addition, new grounds of rejection are presented for the newly added claims.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites that the polymeric residues have been removed from the alkenyl succinic anhydride at or below said maximum. It is not clear if the claim is referring to “at or below said maximum” as an endpoint attained by removal of polymeric residues or as a starting point for further purification by removal of the polymeric residues.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tansley et al in view of Fakoukakis et al (4956478) and further in view of Frohlich et al (5969011) and Sonoda et al (JP 62106091 A, translation used for reference).

Claims 1-12: Tansley et al discloses a sized paper or board, wherein the sizing agent comprising alkenyl succinic anhydride, or ASA is added to the aqueous pulp slurry (Abstract; col 4, lines 23-26; col 5, lines 55-60). The board is coated on both sides with polyethylene (barrier coating of a food grade material) (col 1, lines 12-18; col 3, line 25). Tansley et al discloses a method for producing a carton comprising forming a sized paper or board, treating with hot hydrogen peroxide (sterilizing), then forming a packaging unit (carton) from the board (col 3, lines 3-28). The sizing agent is provided by an aqueous dispersion (col 3, lines 19 and 20).

Tansley et al does not disclose the polymeric residues or olefin content of the ASA.

Fakoukakis et al discloses method for making a nearly pure ASA (Abstract; col 4, lines 23-26). While the polymeric residues and olefin content of the nearly pure ASA are not disclosed, examples are given of a product comprising about 99% ASA (col 5,

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lines 33-36; col 6, lines 1-3), thus having a maximum combined content of polymer residues and olefins of about one percent. Fakoukakis et al also discloses that the alkenyl succinic anhydrides have substantially no polymeric residue contamination (col 2, lines 13-20; claim 1). Substantially no polymeric residue is interpreted as a level low enough not to have any impact on the structure or performance of the product. The alkenyl succinic anhydrides of Fakoukakis et al are thus substantially the same as those of the instant invention.

Fakoukakis et al does not recite the use of the ASA as a sizing agent. However, ASA is a well known cellulose reactive size used in papermaking, as taught by Frohlich et al (col 1, lines 10-16).

Sonoda et al teaches the use of ASA for multiple purposes, such as a sizing agent, resin former, plasticizer, lubricant additive and rust inhibitor, which include many of the uses recited by Fakoukakis et al but with the inclusion of a sizing agent (p 2, lines 3-4). Sonoda et al also teaches that the usual methods of making ASA result in byproducts of a tar substance and a high molecular weight polymer, which result in insufficient quality of the product. Sonoda et al further teaches that a high-purity product is required for an information recording material (which the Examiner interprets as meaning a paper) and that numerous proposals have been made for obtaining high purity product with fewer byproducts (p 2, last 3 pars).

The art of Tansley et al, Fakoukakis et al, Frohlich et al, Sonoda et al and the instant invention are analogous as pertaining to the use of ASA. Tansley et al teaches the basic use of ASA in a paper as claimed. Fakoukakis et al teaches a method for



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producing high-purity ASA with the claimed amount of byproducts. Frohlich teaches that ASA is a well known sizing agent used in papermaking. Sonoda et al teaches that it was well known in the art (numerous proposals made) to seek a high purity ASA as a sizing agent. It would have been obvious to one of ordinary skill in the art to use the claimed ASA in the paper of Tansley et al in view of Fakoukakis et al and further in view of Frohlich et al and Sonoda et al as a well known sizing agent having a low level of unwanted by-products.

Claim 13: Fakoukakis et al teaches that the products can be used in many instances without further purification (col 2, lines 13-20; col 3, lines 20-23), thus implicitly discloses that further purification is possible. With the desire, as taught by Sonoda et al, to obtain a high-purity ASA sizing agent, it would have been obvious to one of ordinary skill in the art to further purify the product of Fakoukakis et al by removing as much of the polymeric residues as possible.

Claims 14-16: The sizing composition of the paper of Tansley et al in view of Fakoukakis et al has substantially the same structure as the instant invention, as claimed. The sizing agent will have the claimed properties of color and rate of hydrolysis. Where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

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Claims 17-19: Tansley et al discloses that the preparation of stable dispersions comprising the cellulose reactive size includes conventional stabilizers and dispersing agents that falls within the competence of those skilled in the art. The preferred stabilizer is a cationic starch (col 4, lines 16-22). Frohlich et al teaches that paper sizes based on cellulose reactive sizing agents (ASA and AKD) are generally provided in the form of dispersions comprising a high molecular weight cationic polymer, cationic starch, polyamine or polyamideamine (col 1, lines 1-25). Applicant also teaches that cationic starch, cationic polyacrylamide and other cationic polymers are stabilizers well known in the art for sizing compositions using ASA (p 5, 3<sup>rd</sup> par). It would thus have been obvious to one of ordinary skill in the art to use the conventional stabilizers with high purity ASA to make a paper sizing dispersion and to have a reasonable expectation of success.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tansley et al.

Claim 10 is a product-by-process claim. The product of Tansley et al appears to be the same as or similar to the claimed product, a paper or board sized with ASA, although produced by a different process. The burden therefore shifts to applicant to

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come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). "In the event any differences can be shown for the product of the product-by-process claim 10 as opposed to the product taught by the reference Tansley et al, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
DRC

  
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